

**Notice of Allowability**

Application No.

10/605,975

Examiner

George Suchfield

Applicant(s)

DANICAN ET AL.

Art Unit

3676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/3/05 Communication.
2. ☒ The allowed claim(s) is/are 1-25.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 11/3/05.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

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1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David L. Cate on November 3, 2005, wherein it was observed that amended claims 9 and 10 still included reference to colloidal silica solutions. It was further noted that original claims 6 and 7 also improperly recited "solutions". It was agreed these claims would be amended to "solution", along with other editorial/grammatical changes. It was also pointed out that the amendment to claim 21 included the term "holding", which lacked basis in the original disclosure and/or specification. It was noted that Para [0035] of the specification included a step of stopping the pumping for a time period; thus it was agreed to amend claim 21 by changing "holding" to "stopping the pumping".

The application has been amended as follows:

In claim 6, line 1, "solutions" has been changed to -- solution --; in lines 1 and 2, the recitation "used for this invention" has been deleted; and in line 2, "contained" has been amended to read -- contains -- .

In claim 7, line 1, "solutions" has been changed to -- solution --; in lines 1 and 2, the recitation "used for this invention" has been deleted; and in line 2, "contained" has been amended to read -- contains -- .

In claim 9 line 1, "solutions" has been changed to -- solution --; in line 2, "contain" has been amended to read -- contains -- .

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In claim 10 line 1, "solutions" has been changed to -- solution --; in line 2, "contain" has been amended to read -- contains -- .

In claim 21, line 1, "holding" has been changed to -- stopping the pumping -- .

2. The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of claims 1-25 is that none of the references cited, taken either singly or in combination, teach or disclose a method of completing an unconsolidated interval, including particulates, in a subterranean formation including a step of consolidating the formation interval, prior to fracturing, utilizing an aqueous solution of colloidal particles or colloidal silica further comprising a pH modifier and/or an ionic strength modifier to form a hard gel, as set forth in claims 1 and 23. For example, Reistle, Jr. (3,070,160), James et al (6,450,260), Nguyen et al (6,776,236; 6,257,335; 5,791,415) disclose consolidating a formation interval prior to a step of fracturing, but do not utilize a colloidal silica or particle suspension, with further disclosing that the consolidated interval must "remain flexible" (Nguyen et al). Other references, consolidate a formation interval or carry out a soil grouting operation, such as Bennet et al (4,732,213), with a colloidal silica or colloidal particle suspension which forms, e.g., a colloidal silica gel in the formation interval or soil, but does not disclose a subsequent fracturing step on the treated formation.

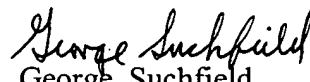
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Suchfield whose telephone number is 571-272-7036. The examiner can normally be reached on M-F (6:30 - 3:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Glessner can be reached on 571-272-6843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
George Suchfield  
Primary Examiner  
Art Unit 3676

Gs  
November 3, 2005